



The home of Foster's innovative Cascade Green, in the shadow of Mt Wellington, near Hobart. Cascade Brewery Pty Ltd.



Cam Hines and David Bonighton atop the roof of Mountain Goat Brewery, Melbourne. Mountain Goat Brewery

Last year was the year of the 'green' beer. Not the St Patrick's Day green, but the environmentally friendly, quench-your-conscience-while-you-quench-your-thirst kind of green. Wendy Pyper checked to see which earn their colours.

## Golden nectar gone green

Establishing a lead in the niche market for green beer were two of Australia's major beer producers, Lion Nathan and Foster's, who released the first Australian Government Greenhouse Friendly™ certified, carbon neutral beers – Barefoot Radler and Cascade Green – in January and March respectively.

But as companies increasingly seek a slice of the green consumer pie, the accusations of 'greenwash' are flowing faster than the coldies on a summer's day. In the past two years hundreds of complaints about misleading environmental claims have been received by the Australian Competition and Consumer Commission (ACCC).<sup>1</sup>

So is there really such a thing as a green beer, and how can you distinguish one company's green claims from another?

According to KPMG climate change and sustainability advisor, Jack Holden, third party certification may provide environmental transparency for one product, but it may not reflect the whole company's activities.

'It's more compelling to say we've looked at the environmental and social impacts of our whole operation and supply chain and this is what we've done to improve it. The real game is to ensure that when someone looks at your corporation, they find a story that's sustainable for all products and services,' he says.

So how do Australian brewers stack up? To find out, we must delve into the ancient art of beer brewing; an energy and water intensive process that can produce large amounts of greenhouse gas and solid and liquid waste.

A 2003 report on energy use in breweries<sup>2</sup> found most energy is used during the boiling of the 'wort'. This liquid is produced by mixing cracked barley grains with hot water to convert starch into fermentable sugars. Subsequent fermentation and maturation also use significant energy to cool the developing beer, as do the final packaging and pasteurisation.

Published best practice figures on water use in brewing vary between five and seven

litres of water per litre of beer. The water is used for cooling, cleaning, rinsing and brewing, while additional water is needed to produce the barley and hops, and in the production of packaging.

Liquid and solid waste – primarily wastewater, spent grain and hops, yeast and diatomaceous earth (for filtering) – is produced throughout the brewing process, while carbon dioxide is released during fermentation when yeast, added to the wort, converts the fermentable sugars into alcohol.

There are, however, many opportunities to reduce breweries' environmental footprints.

Coopers Brewery, for example, has invested in an on-site 4.4 MW gas-turbine powered cogeneration plant. The plant generates about 24 000 MWh of electricity annually, of which about 6500 MWh is used to run the brewery while the remainder is exported to the grid. Waste heat from the turbine is used to generate steam, used for heating, evaporation and packaging, and to power water chillers. Coopers says the plant

<sup>1</sup> 'Analysis: "Greenwash" steams-up ACCC': <http://www.bandt.com.au/news/81/0C051C81.asp>; 'Watch out for the greenwash': <http://thebigchair.com.au/news/focus/watch-out-for-the-greenwash>  
<sup>2</sup> <http://ies.lbl.gov/iespubs/50934.pdf>



**Coopers Brewery's on-site electricity cogeneration plant has saved 15 000 tonnes in annual greenhouse emissions.** Coopers Brewery Ltd.

has reduced carbon dioxide emissions by up to 15 000 tonnes a year compared to a conventional plant of similar size.

At the other end of the scale, Mountain Goat microbrewery in Victoria is a small operation (400 000 litres) with big sustainability ideals; although the beer isn't marketed that way. Co-founder, Cam Hines, says the 'Goat' purchases Green Power, uses heat from nine solar panels installed on the roof to preheat brewing water to 55°C, neutralises its waste and doesn't use preservatives or additives. Their India Pale Ale is Australia's first certified organic beer.

Energy savings can also be made by improving the efficiency of equipment, such as pumps, motors and compressors. At Foster's Cascade Brewery in Tasmania, where Cascade Green originates, energy usage has been cut by 16 per cent per unit of production over the last six years; achieved in part by investing in 'variable speed drivers' and 'smart meters', which better match load requirements to the equipment, along with efficient use of captured steam and a refrigeration upgrade.

Australian breweries are also working to 'reduce, reuse and recycle' water. Cascade, for example, has reduced water use by 30 per cent in the last six years by installing two water recycling systems, optimising rinse and cleaning times, and reducing water use in the malting process. Foster's Sustainability Report (2008) says the company aims to achieve a 10 per cent

reduction in water use per unit of production by 2011 on 2007 levels. Its Yatala brewery in Queensland is a green beacon in the war on water use, consuming about 2.2 litres of water for each litre of beer.

Both Foster's and Lion Nathan have packaging and waste reduction programs, capture and reuse carbon dioxide from fermentation to carbonate their beer, and participate in the Australian Government's Greenhouse Challenge Plus program (as does Coopers).

'Lion Nathan has reduced greenhouse emissions by 16 per cent since 1995, despite an increase in production, and the company intends to invest to achieve further significant reductions,' says spokesperson, Ralph Simpson.

'We've made some great savings in energy and water usage across all our key brewing sites and our focus is on reducing, reusing and recycling wherever possible.'

The ability to articulate the environmental impacts of their operations and demonstrate continuous improvement may support brewers' statements about environmental responsibility, but they must be very specific in their claims when it comes to marketing. According to the ACCC, words such as 'green' and 'environmentally friendly' are open to interpretation and likely to mislead the public. Unsubstantiated claims can also damage a company's credibility.



**Barefoot Radler, Mountain Goat's organic India Pale Ale, Coopers Pale Ale, and Cascade Green.**

Lion Nathan, Mountain Goat Brewery, Coopers Brewery Ltd., Cascade Brewery Pty Ltd.

The ACCC<sup>3</sup> and the Total Environment Centre<sup>4</sup> recently released best practice guidelines for environmental claims in advertising and marketing communications. Product certification is another way companies, and consumers, can have confidence in their claims.

'Going through the Greenhouse

Friendly™ certification process for Cascade Green made us realise the importance of precise terminology, so that the consumer knows exactly what it is we're claiming,' Foster's Sustainability Manager, Scott Delzoppo, says.

'Cascade Green is a 100 per cent carbon offset beer, which means we offset the carbon associated with the full life cycle of the product – from harvesting the ingredients, to consumption and advertising.'

Delzoppo says that while other certification schemes exist, the government scheme provided the highest degree of verification for, and confidence in, marketing their product.

'Because it's a rigorous process that environmental NGOs endorse, it limits our exposure to adverse reactions from stakeholders,' he says.

In Cascade's case, the scheme commits the company to a greater degree of accountability in every part of the brewing process. But Delzoppo points out that it is part of a broader mandate to reduce their footprint (before purchasing carbon offsets); and efficiency improvements put in place for one beer, benefit others produced at the same brewery. A similar story exists at Lion Nathan.

'Lion Nathan is making significant investment across the beer portfolio to reduce carbon emissions,' Simpson says.

'Barefoot Radler provides consumers with a choice of carbon neutral product.

If consumers vote with their feet, clearly the business case for wider offsets will have to be considered.'

So what do consumers think?

Delzoppo says Cascade Green's sales have been performing strongly and it has been publicly recognised for its environmental credentials after winning the 2008 Tasmanian Premier's Climate Change Award.

Consumer comments on the Cascade Green blog are also encouraging. Lion Nathan

says Barefoot Radler is 'performing very well' and was voted Best New Product for 2008 at the Australian Liquor Industry Awards.

KPMG's Jack Holden has this advice for consumers: 'The two principles that underpin good practice are transparency and ongoing improvement. If companies are open then consumers can make logical and informed choices.'

Oh, and you might want to taste the beer too.

<sup>3</sup> Green marketing and the Trade Practices Act: <http://www.accc.gov.au/content/index.phtml/itemId/815763>

<sup>4</sup> The green cred checklist: [http://www.greencapital.org.au/index.php?option=com\\_docman&task=doc\\_view&gid=142](http://www.greencapital.org.au/index.php?option=com_docman&task=doc_view&gid=142)